

San Juan Mtn Focus Area - Regional Initiative by Mark Dodson

Intro doc "2004 - One face on the Watershed"

I was available because; interest in mining sites; learning about history

Upper Animas Mining District

EPR Management Briefing

April 8, 2010

History & Background on Cement Creek leaf; We have signy issues

### Background

- Mining district within San Juan County - 13 major volcanic calderas - highly mineralized and extensively mined from 1874 to 1991.
- Many mine sources due to 1500 mine sites within 186 sq miles. The area had four railroads, three smelters, and over thirty mills.
- San Juan County - the smallest and one of the most economically challenged in Colorado.
- About 83% of the land in the Upper Animas Basin is under public ownership - by U.S. Forest Service (FS) or U.S. Bureau of Land Management (BLM). They have had significant role in the cleanups.
- CERCLA has 5 "Sites" within the District: *Many patented claims are located in these areas*
  1. Baker's Park Mill - *NFRAP*
  2. Standard Metals Corp. Mayflower Mill - *NFRAP of PPA w/ Historical Socy*
  3. Standard Metals Corp. Sunnyside Mine - *NFRAP*
  4. Kendrick & Gelder Smelter - *PA of Low Priority for SI still out there (!?)*
  5. Upper Animas Mining District - *Active*

1185687 - R8 SDMS

### Stakeholder Process History

Who is involved?

Animas River Stakeholder Group (ARSG)  
Bureau of Land Management (BLM)  
Colorado Department of Public Health and Environment, Hazardous Materials & Waste Management Division (HMWMD)  
Colorado Department of Public Health and Environment, Water Quality Control Division (WQCD)  
Colorado Division of Reclamation, Mining & Safety (DNR DRMS)  
Colorado Goldfields Inc.  
Gold King Mines Corp. (GKM)  
Salem Minerals Inc. (SMI)  
San Juan Corp. (SJC)  
San Juan County  
Silver Wing Company Inc. (SWC)  
Sunnyside Gold Company (SGS)  
Trout Unlimited (TU)  
USDA Forest Service (USFS)  
U.S. Environmental Protection Agency (EPA)  
U.S. Geological Survey (USGS)

Why were we here -  
the commitments made  
in 1996

Why are we here & why are we spending money here

Reason: Informational and justification - where we're involved & why EPR thinks we should be involved - keep relationships going

To Beyond Looked @ from history standpoint

- Highly early with commitment to ARSG*
- Why? Numerous source areas, historic releases, and more recent documented CWA and NPDES violations made the area ripe for regulation and enforcement actions. EPA thought about watershed-wide NPL designation in the mid-1990s. Silverton citizenry and their relatives who were employed by the mining companies have always been against NPL listing or other regulatory involvement in the watershed. The locals organized in response. Eighteen months of negotiations between federal, state and private interests resulted in the 1994 formation of the Animas River Stakeholders Group.
  - In 1996, the Regional Administrator agreed to forego listing as long as the ARSG made progress in mine site remediation and water quality improvements. Since 1994, EPA has regularly attended the monthly Animas River Stakeholders Group meetings, had regular talks with the County Administrator, Town/County Planner, and community members. This has helped EPA (Carol Russell before me) find out how best to support the community.
  - ARSG studied 1,500 mine, focused on 173 draining mine adits and 157 mine waste sites, then identified about 33 adits and 32 waste sites to prioritize. These were judged to be the highest ranking contributors of metals in the Animas River. The ARSG prioritized their actions based on:

1. Technology needed for remediation,
2. Funds, and
3. Property access.

*Rename Releases & Cleanups?*

*This was EPA involvement*

**EPA's Involvement:**

**Past** Standard Metals Corp., then Sunnyside Mining Corp.: Water quality-related and mine waste discharge, tailings releases, notices of violation, Consent Decree with CDPHE and pollution trading to deal with water quality issues.

Active water treatment began by SMC in 1970s, updated over the years by Sunnyside. Gladstone's active water treatment stopped in 2005; settling ponds reclaimed in 2006. Since 1996, the American Tunnel has had three bulkheads installed, flow has decreased from 1,600 gpm to about 150 gpm. The Red & Bonita Mine, and other upgradient adits' and seeps discharges are now making up the difference in the American Tunnel flow.

**Present**

**Successes**

- Add some of these,*
- Examples and some dollar amounts of mine waste cleanups by:
    - BLM/USFS,
    - ARSG using NPS 319 grant \$\$ (DRMS support)
    - Mining Cos.
  - Rose Walsh Smelter Targeted Brownfields Assessment support followed by successful Cleanup Grant for affordable housing
  - Helped the ARSG develop their Sampling and Analysis Plan with objectives of:



\* CC projects <sup>not</sup> undertaken because Active; we have

*EPA GAP development; have experience doing this; it was something EPA could offer to help before environmental*

- Collecting monthly water samples and flow measurements; and
- Assessing changes in water quality and metals loads over time, since flows and loads have not been consistently evaluated, esp. since bulkheads were installed and the WTP was removed.

*EPA and*  
Questions the Animas River Stakeholders Group want to answer are:

- PSQ1 - What are the seasonal and annual variability in water chemistry, metals loads, and discharges from the upper Cement Creek sources of MIW sources?
- PSQ2 - Can the Cement Creek water quality data be used to quantify impacts to the Animas River?
- PSQ3 - Are there additional seeps and springs emanating and impacting loads in Cement Creek and the Animas River;
- PSQ4 - Can it be determined if, and when equilibrium has been reached in this portion of the watershed?
- PSQ5 - Can these data support stakeholder input and decisions on the future design and cost estimates for a water treatment system?
- PSQ6 - Can these data support stakeholder input and decisions on a possible micro hydroelectric power plant to be used to power a water treatment system?

*Decision Criteria don't need*

#### Challenges/Ongoing Issues

- From ARSG perspective, they recognize there are ongoing water quality issues in Upper Cement Creek, but inability to address due to lack of Good Sam provisions that will protect from 3<sup>rd</sup> party CWA suits.
- Lack of water treatment in Gladstone is impacting the TMDL compliance point below Silverton at A72.
- Water quality flow and loads have been changing since the last bulkhead went into the American Tunnel (2002).
- The worst sources are the Gold King Mine 7 level; Red & Bonita Mine, American Tunnel, and the Mogul Mine (Grand Mogul to lesser degree).
- From EPA perspective, remaining areas that need addressed may be NPL-caliber, but we don't have community support at this time.
  - Data Gap Analysis for Targeted Listing Viability indicates there are 28 unremediated sources within the Cement Creek drainage totaling about 146,000 cubic yards of mine-related waste, some near or in surface water. Metals of Concern: As, Cu, Cd, Pb, Mn, Zn.

*Show DLE charts as Skhroeder charts*

*What are our goals?*

*Add the ARSG Good Sam into web page as information they want to read*

*more source & pathway data as needed for NPL data*

## Future

### Ongoing Issues

What is EPA's role? And where?

- Likely Removal Program efforts in 2010? – 2013;
  - Funds could come from SMC special account funds – BLM has same settlement amounts and BLM and EPA have discussed prioritizing the same sites to get the biggest bang for the buck
    - Upper Cement Creek:
      - Mogul, Grand Mogul, Gold King 7 level – primarily one private owner with re-mining interest
      - Red & Bonita - owners
  - Planned PA/SI – KittiMac Tailings (privately owned) in the Animas Drainage 5-6 miles upstream of Silverton
  - Possible SI or removal action: Kendrick & Gelder Smelter – also in/near Cement Creek, but close to town at mouth of creek
  - Lackawanna Mill TBA may need Brownfields oversight or liaison work with CDPHE
  - \$4 Million from ASARCO Silver Lake settlement in Trust; State lead, but the CDPHE and ARSG are working to identify where those funds could be used, e.g., active water treatment plant somewhere.
  - NPL??? – EPA gave ARSG a Target Listing presentation in about 2008, but ARSG still unreceptive to NPL.
  - Ongoing R8 support to keep our relationship with ARSG members strong
    - Attend ARSG meetings
    - Share data
    - Be clear with ARSG and County what our objectives are; what our limitations are

*What are the threats?*

*Comparison of standards to*

*mine sources -*

*exceeds WQS for a, b, c metals*

*In background, threats/risks are; and ~~they~~ they've developed UAA with TMDRs established for a, b, c metals at underlying standards*

stakeholder meetings and stays in touch with locals about ongoing and new projects.

- EPA was involved in the successful Cleanup at the Rose Walsh Smelter – EPA provided Targeted Brownfields Assessment support followed by successful Cleanup Grant for affordable housing project.
- EPA Site Assessment developed a Sampling and Analysis Plan for water quality sampling because I had the technical ability and wanted to be able to weigh in on how to characterize the environmental issues for EPA and the ARSG. We are:
  - Collecting monthly water samples and flow measurements; and
  - Assessing changes in water quality and metals loads over time, since flows and loads have not been consistently evaluated, esp. since bulkheads were installed and the WTP was removed.

Questions that EPA and the stakeholders want to answer are:

PSQ1 - What are the seasonal and annual variability in water chemistry, metals loads, and discharges from the upper Cement Creek sources of mine-impacted water sources?

PSQ2 - Can the Cement Creek water quality data be used to quantify impacts to the Animas River?

PSQ3 - Are there additional seeps and springs emanating and impacting loads in Cement Creek and the Animas River;

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### Stakeholder Process History

Those involved include:

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- San Juan County
- Silver Wing Company Inc. (SWC)
- Southwest Water Conservation District (SWCD)
- Sunnyside Gold Company (SGS)
- Trout Unlimited (TU)
- USDA Forest Service (USFS)
- U.S. Environmental Protection Agency (EPA)
- U.S. Geological Survey (USGS)

### Stakeholder Successes

- ARSG-lead cleanups in the Animas and Mineral Creek have improved water quality and habitat near Silverton and downstream to the New Mexico state line. Salmon flies have been migrating upstream on the Animas River from New Mexico to the 32nd Str Bridge in Durango.
- 1) The Animas River Stakeholders Group in the San Juan Mountains of Colorado coordinated and conducted extensive water-quality and benthic macroinvertebrate sampling showing improvements to the aquatic ecosystem after remediation
- Last fall CDOW did a fish survey in Maggie, Minnie, and Cunningham Gulches which haven't been surveyed since the 80's. CDOW found a significant increase in population density and size classes. Also productivity was in the 50 to 95 lbs./acre in the three streams.
- Ongoing support for ARSG by local community and local governments, Southwest Water Conservation District, and the maintenance of good monthly meeting participation.
- Development of a Good Sam web site and legislative efforts including lobbying in DC via ARSG and WQCC member Peter Butler and the SWCD.

- Commitment by ARSG and the BLM to a new water treatment plant constructed at Gladstone. This may be in the form of a demonstration facility.
- ARSG and DRMS are planning for two more significant cleanups in the Mineral Creek drainage this year: Silver Ledge and Koehler
- - Examples and some dollar amounts of mine waste cleanups by:
    - BLM/USFS,
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  - Data Gap Analysis for Targeted Listing Viability indicates there are 28 unremediated sources within the Cement Creek drainage totaling about 146,000 cubic yards of mine-related waste, some near or in surface water. Metals of Concern: As, Cu, Cd, Pb, Mn, Zn.
  - Sources and sediments would need resampled for and HRS package; however, I don't plan to do that until we know where targeted listing would best be done.
  - Some areas may be ripe for Removal Program efforts in 2010? – 2013;
    - Funds could come from SMC special account funds – BLM has same settlement amounts (about \$130,000 at this time) and BLM and EPA have discussed prioritizing the same sites to get the biggest bang for the buck - there are several good candidates in Upper Cement Creek with private ownership.
      - Mogul, Grand Mogul, Gold King 7 level – primarily one private owner with re-mining interest with whom Steve Way and Richard Sisk have experience.
      - Red & Bonita – owners have been identified, but as yet unresponsive.

- Planned PA/SI – KittiMac Tailings (privately owned) in the Animas Drainage 5-6 miles upstream of Silverton
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- NPL??? – EPA gave ARSG a Targeted NPL presentation in about 2008, but ARSG still unreceptive to NPL.
- Ongoing R8 support to keep our relationship with ARSG members strong
  - Attend ARSG meetings
  - Share data
  - Be clear with ARSG and County regarding our objectives, ability to support (where and why), and our limitations.
  - Stay involved so that CERCLA can continue to be involved. It may take time for community to see the benefit of Superfund.